

Appl. No. 10/767,248
Docket No. 351913-992820 (Formerly 2102397-992820)

REMARKS/ARGUMENTS

Claim 9 has been rejected under 35 U.S.C. § 112 as being indefinite. Claims 1-4, 9-12, 14, 19, and 24 have been rejected under 35 U.S.C. § 102(b) as being anticipated by various ones of U.S. Patent No. 6,304, 141 to *Kennedy et al.* ("*Kennedy*"), U.S. Patent No. 5,175,508 to *Gingrich et al.* ("*Gingrich*"), U.S. Patent No. 5,604,464 to *Hwang et al.* ("*Hwang*"), U.S. Patent No. 6,181,204 to *Smith et al.* ("*Smith*"), and U.S. Patent No. 6,121,817 to *Yang et al.* ("*Yang*"). Claims 5-8 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,069,525 to *Sevic et al.* ("*Sevic*") in view of U.S. Patent No. 5,631,606 to *Tran* ("*Tran*").

Claim 9 has been amended to overcome the rejection under 35 U.S.C. § 112. Applicant respectfully traverses the remaining rejections, noting that none of the above references discloses every element of the claims as amended. More specifically, none of the references discloses the interconnection of multiple operational amplifiers.

Kennedy

Kennedy discloses a gain-compensated differential amplifier. With reference to FIG. 1 of *Kennedy*, differential amplifiers 102 and 104 receive signals on input nodes 106, 108, and produce differential output signals accordingly (Col. 2:46). A gain compensation device 110 provides gain compensation for the differential amplifiers 102, 104, keeping their gains steady (Col. 2:55-67). Notably, gain compensation device 110 is not able to interconnect any of the inputs of the differential amplifiers 102, 104 – it can only provide gain compensation to them (*Id.*)

Gingrich

Gingrich discloses a voltage-controlled amplifier. With reference to FIG. 10 of *Gingrich*, four op amps 10 provide four-channel amplification, and this amplification is limited by a clip detector circuit 56 and attack/decay circuit 57. The clip detector circuit 56 detects clipping when the outputs OUT1 – OUT4 of any channel exceed a fixed percentage of the supply voltage (Col. 7:34-37, 50-55), upon which the attack/decay circuit 57 reduces the gain of that channel (Col.

Appl. No. 10/767,248
Docket No. 351913-992820 (Formerly 2102397-992820)

8:17-34). In short, *Gingrich* adjusts the voltage input to the op amps 10, and does not adjust any interconnections of the op amps 10.

Hwang

Hwang discloses a cascade operational amplifier with multiple inputs. With reference to FIG. 3 of *Hwang*, it should be noted that *Hwang* discloses only a single op-amp 30 (Col. 4:14-19). *Hwang* does not disclose any circuit configurations having more than one op-amp. Accordingly, it cannot disclose the interconnecting of multiple op-amps.

Smith

Smith discloses a variety of transconductance circuits. Inspection of *Smith* shows that various circuits are disclosed, each having a number of transconductance amplifiers (e.g., FIG. 6; Col. 4:32-39). However, none of the inputs of the transconductance amplifiers is configured for interconnection in any way – the inputs of each amplifier are always fixed, and no mechanism for varying them is disclosed (e.g., *id.*). Thus, *Smith* does not disclose the interconnecting of its amplifiers.

Yang

Yang discloses an analog median filter circuit. With reference to FIG. 4 of *Yang*, an analog median filter 25 is disclosed, having three amplifiers 30a – 30c (Col. 4:34-35). However, like *Smith*, *Yang*'s circuit 25 does not disclose the interconnecting of its amplifiers – none of the amplifiers 30a – 30c is connected in any different way.

Sevic

Sevic discloses a dual-mode amplifier. With reference to FIG. 1 of *Sevic*, an RF amplifier circuit 100 has multiple amplifier stages 104a – 104n that can each be selectively switched on/off by a control circuit 102. That is, the control circuit 102 turns on/off various amplifiers 104a –

Appl. No. 10/767,248
Docket No. 351913-992820 (Formerly 2102397-992820)

104n as appropriate. However, while *Sevic* discloses that different amplifiers 104a – 104n that can be turned on/off, it does not disclose that the amplifiers 104a – 104n can be interconnected in different ways.

Tran

Tran discloses a CMOS power amplifier. This power amplifier has only a single operational amplifier 11 (e.g., FIG. 2). Like *Hwang*, *Tran* does not disclose multiple operational amplifiers, and thus cannot disclose the interconnection of multiple op amps.

As above, none of the references discloses multiple operational amplifiers that can be interconnected in different ways. Accordingly, none of the references singly or collectively discloses every element of Applicants' claims as amended, and Applicants' claims are patentable for at least this reason.

For example, as none of the references discloses op amps that can be interconnected in varying ways, the references cannot disclose controllers that perform such interconnections. Thus, the references do not disclose every element of claim 1 as amended, which recites "a controller configured to interconnect the inputs of the plurality of operational amplifiers" and claim 1 as amended is thus patentable over the references for at least this reason. Similarly, claim 6 as amended recites "a controller configured to adaptively interconnect the inputs" of op amps, and as such is patentable over the references for at least this reason.

The remaining independent claims are also patentable over the references for at least these same reasons. Furthermore, the remaining claims each depend from one of the independent claims, and are also patentable for at least the same reasons as the independent claims.

Appl. No. 10/767,248
Docket No. 351913-992820 (Formerly 2102397-992820)

CONCLUSION

For the foregoing reasons, it is respectfully submitted that the claims are in an allowable form, and action to that end is respectfully requested.

The Examiner is invited to call Applicant's attorney at the number below in order to speed the prosecution of this application.

The Commissioner is hereby authorized to charge any fees which may be required, or credit any overpayment, to **Deposit Account No. 07-1896** referencing **Attorney Docket No. 2102397-992820**.

Respectfully submitted,

DLA Piper Rudnick Gray Cary US LLP

Dated: December 19, 2005

By: 

Jon Y. Ikegami
Reg. No. 51,115
Attorneys for Applicant(s)

Jon Y. Ikegami
DLA Piper Rudnick Gray Cary US LLP
2000 University Avenue
East Palo Alto, CA 94303-2248
650-833-2104 (Direct)
650-833-2000 (Main)
650-833-2001 (Facsimile)
Jon.ikegami@dlapiper.com